| PRN: | | Course Code : | AMT1404 |
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Second Year **B. Tech** End Semester Examination Summer 2024

# Database Management System

Day and Date: 29 MAY 2024, Wed  Max Marks: **100**

Time : 10:30AM To 01.30PM  Duration: **03**hrs

Instructions:All questions are compulsory.

| | | | Marks | Bloom's Level | CO |
|---|---|---|---|---|---|
| Q.1 | | **Attempt the following** | | | |
| | a) | Identify levels of abstraction and data independence in DBMS. | 08 | L1 | CO1 |
| | b) | Explain in detail about generalization, aggregation and specialization. | 08 | L2 | CO1 |
| | | OR | | | |
| | b) | Explain various DDL and DML commands with examples. | 08 | L2 | CO1 |
| Q.2 | | **Attempt the following** | | | |
| | a) | Explain about Domain Relational Calculus with example. | 08 | L2 | CO2 |
| | b) | Select outer join operation in relational algebra and explain with an example. | 08 | L3 | CO2 |
| | | OR | | | |
| | b) | Explain the different operations in relational algebra | 08 | L2 | CO2 |
| Q.3 | | **Attempt any two from the following** | | | |
| | a) | Define normalization. List out the differences between 1NF and 2NF. | 08 | L4 | CO2 |
| | b) | Relate Normalization with 4NF and 5NF. | 08 | L2 | CO2 |
| | c) | Illustrate functional dependency. Explain the properties of Functional dependency. | 08 | L2 | CO1 |
| Q.4 | | **Attempt any two from the following** | | | |
| | a) | Explain Concurrency Control with Locking Methods. | 08 | L2 | CO2 |
| | b) | List and explain the properties and states of Transaction. | 08 | L1 | CO2 |
| | c) | Make use of Time stamping Method in Concurrency Control with an example. | 08 | L3 | CO2 |
| Q.5 | | **Attempt any Two of the following** | | | |
| | a) | Discover the different methods for Indexing. | 09 | L4 | CO3 |
| | b) | Assess about the Data Dictionary Storage and Data Buffer. | 09 | L2 | CO3 |
| | c) | Construct a tree using B+ Tree File Organization method. Mention pros and cons. | 09 | L3 | CO3 |
| Q.6 | | **Attempt any Two of the following** | | | |
| | a) | List out the rules that are to be followed in buffer management. | 09 | L1 | CO3 |
| | b) | Identify the different types of storage structures in the DBMS. | 09 | L3 | CO3 |
| | c) | Identify the various failure categories in the system. | 09 | L3 | CO3 |

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